

Appl. No. : 10/823,304
Filed : April 13, 2004

AMENDMENTS TO THE CLAIMS

1.17. (Canceled)

18. (Currently amended) A device for the heat treatment of a series of substrates, comprising a heating body with a flat surface for accommodating a substrate adjacent to said surface, controllable heating means for heating said heating body, a digital control means, at least one temperature sensor configured to measure the temperature in said heating body and arranged in said heating body near to said flat surface such that withdrawal of heat from said heating body by said substrate is detected, wherein said heating means are connected to said control means, wherein said temperature sensor is connected to said control means, transport means for positioning substrates in the vicinity of said heating body adjacent to said flat surface and for removing substrates therefrom, wherein said transport means are connected to said control means, said control means being provided with extrapolation software for extrapolating over a time interval the temperature measured by said temperature sensor, and said control means arranged in such a way that ~~said positioning~~ each of said substrates is positioned in the vicinity of said heating body ~~when is able to take place only~~ if the temperature extrapolated over said time interval has reached a desired temperature value.

19. (Original) The device according to Claim 18, wherein said at least one temperature sensor is arranged in the heating body a distance of less than 5 mm away from said flat surface.

20. (Original) The device according to Claim 19, wherein said at least one temperature sensor is arranged in the heating body a distance of less than approximately 2 mm away from said flat surface.

21. (Original) The device according to Claim 18, wherein said control means comprise a low level control means for controlling said transport means and high level control means, wherein said high level and said low level control means are arranged in such a way that after emission of a starting signal by said high level control means to said low level control means, said low level control means enables said transport means to perform a plurality of movements according to a predetermined pattern, and wherein said high level control means is arranged for monitoring unsafe situations based on input signals during the performance of one

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of said plurality of movements and is arranged for emitting a interrupt signal to the low level control means if an unsafe situation occurs.

22. (Original) The device according to Claim 18, comprising a second heating body with a second flat surface for accommodating a substrate adjacent to said surface, wherein said heating body and said second heating body are arranged such that said flat surface and said second flat surface are parallel to each other and relatively moveable towards and from each other for accepting and releasing of said substrate between said heating body and said second heating body, wherein said second heating body is provided with

second controllable heating means for heating said second heating body,

at least one second temperature sensor, arranged in said second heating body near to said flat surface such that withdrawal of heat from said second heating body by said substrate is detected and

wherein said second heating means are connected to said control means, and wherein said control means are arranged in such a way that said positioning of each of said series of substrates in the vicinity of said heating body and said second heating body is able to take place only if the temperature measured by said second temperature sensor and extrapolated over said time interval has reached a desired temperature value.

23. (Original) The device according to Claim 18, further comprising a cooling body with a cooling chamber for accommodating the substrate, wherein the cooling body is arranged in an extension of a transport direction of transport means.

24-51. (Canceled)

52. (New) The device according to Claim 18, wherein said time interval is substantially equal to the time needed to load a substrate in the vicinity of said heating body.

53. (New) The device according to Claim 18, wherein said heating means are positioned closer, as compared to the at least one temperature sensor, to a second side of said heating body, the second side being generally opposite to said surface.

54. (New) The device according to Claim 53, further comprising a second temperature sensor located closer to said second side than said at least one temperature sensor.

55. (New) The device according to Claim 54, further comprising a second temperature sensor located closer to said second side than said at least one temperature sensor.

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56. (New) The device according to Claim 55, wherein the second temperature sensor is connected to said control means and said control means is arranged such that a temperature gradient will be established over the heating body between said surface and said second side.